

## **REMARKS**

### **Claim Objections**

The Examiner has objected to Claims 1, 6, 8, and 11 stating that the term “the at least first network node” lacks antecedent basis. Regarding Claim 1, it is respectfully submitted that an antecedent basis for the objected term already exists in the claim. In particular, the antecedent basis is the term “at least a first network node” in the claim preamble line 4. Accordingly, it is believed that Claim 1 does not require amending in this regard, and it is requested that the Examiner withdraw this objection.

Regarding Claims 6 and 8, these claims are dependent upon Claim 1, and accordingly it is believed that the antecedent basis of the term “the at least first network node” is provided in the preamble of Claim 1 as previously described. Thus, it is believed that Claims 6 and 8 do not require amending in this regard, and it is requested that the Examiner withdraw this objection to these claims.

Regarding Claim 11, it is believed that there is no occurrence of term “the at least first network node” in this claim. However, the alternative term “the first network node” occurs in the paragraph of the first providing step. If the Examiner is referring to this alternative term, it is respectfully submitted that antecedent basis is already provided in the preamble (line 4) by the term “at least first and second network nodes”. Accordingly, it is believed that Claim 11 does not require amending in this regard, and it is requested that the Examiner withdraw this objection.

The Examiner has objected to Claims 1, and 11 stating that the term “the at least first presentation command” lacks antecedent basis. Regarding Claim 1, it is respectfully submitted that an antecedent basis for the objected term already exists in the claim. In particular, the antecedent basis is the term “a first presentation command” in the paragraph describing “a presentation controlling node”, and more particularly, line 11 of the Claim 1. Accordingly, it is believed that Claim 1 does not require amending in this regard, and it is requested that the Examiner withdraw this objection.

Regarding Claim 11, it is respectfully submitted that an antecedent basis for the objected term “the at least first presentation command” already exists in the claim. In particular, the antecedent basis is the term “at least a first presentation command” in the

paragraph identified as (a2), and more particularly, line 26 of the Claim 11. Accordingly, it is believed that Claim 11 does not require amending in this regard, and it is requested that the Examiner withdraw this objection.

The Examiner has objected to Claim 7 stating that the term “said at least first network node” lacks antecedent basis. Regarding Claim 7, it is respectfully submitted that an antecedent basis for the objected term exists in Claim 1 upon which the Claim 7 depends. In particular, the antecedent basis is the term “at least a first network node” in the claim preamble line 4. Accordingly, it is believed that Claim 1 does not require amending in this regard, and it is requested that the Examiner withdraw this objection.

The Examiner has objected to Claim 14 stating that the term “the content supplying nodes” lacks antecedent basis. Regarding Claim 14, it is respectfully submitted that an antecedent basis for the objected term exists in Claim 11 upon which the Claim 14 depends. In particular, the antecedent basis is the term “one or more content supplying nodes” in the step of storing, and more particularly, lines 5 6 of the Claim 11. Accordingly, it is believed that Claim 14 does not require amending in this regard, and it is requested that the Examiner withdraw this objection.

The Examiner has objected to Claim 15 stating that the term “the first content supplying node” lacks antecedent basis. Regarding Claim 15, it is respectfully submitted that the term “the first content supplying node” has an antecedent basis in this claim. In particular, the term “a first of the content supplying nodes” occurs in the step of retrieving within this claim (lines 2-3 of the claim). Accordingly, it is believed that Claim 15 does not require amending in this regard, and it is requested that the Examiner withdraw this objection.

The Examiner has objected to Claim 23 stating that the term “said alternative present portion” lacks antecedent basis. Regarding Claim 15, the term objected to here is a typographical error. The term has been amended to “said alternative presentation portion”, which has antecedent basis in the term “an alternative presentation portion” in Claim 22 upon which Claim 23 is dependent.

The Examiner has objected to Claims 11-20 asserting that in Claim 11, the phrases “each network node (N) of said first and second network nodes” (at line 22), and “the

network node N” (at line 27) are confusing because of the slightly different notation. The Examiner further states that it appears that the letter “N” can be omitted because there are only two nodes which are already designated as the first and second nodes. Applicant’s representatives have deleted the occurrences of the letter “N”. However, it is noted that the term “the network node” is to be interpreted as the “first network node” in one instance of (a1) through (a3), and as the “second network node” in another instance of (a1) through (a3).

### **Claim Rejections under 35 USC § 102**

The Examiner has rejected Claims 1-6, 11-13, 15, 17-19 and 21-22 under 35 USC § 102(e) as being anticipated by Nakayama (U.S. Patent No. 6,493,748).

Nakayama is primarily directed to conserving network transmission bandwidth. Accordingly, Nakayama discloses a technique for downloading differences between an old version of information stored at a local computer, and a newer version of the information resident at, e.g., a website server. Nakayama applies this technique in the context of synchronizing portions of a network transmitted presentation, where (1) a network streamed portion of the presentation is synchronized with (2) a non-stream information also transmitted on the network. More specifically, Nakayama addresses the problem that occurs in the case that a client network node starts the presentation of the network stream, e.g., at a later time than when actual stream transmissions of the presentation commenced. In such a case, the synchronization of the presentation of the stream with the non-stream portions of the presentation can be lost or degraded. In particular, Nakayama discloses that for the non-stream information having predetermined times (relative to the commencement of the streamed portion of the presentation), when the non-stream information is to be presented at a client (local) computer (e.g., Nakayama, Fig. 11), such predetermined times will not be correct for presenting the non-stream information if the client node does not receive the presentation from its very beginning. For example, if a client node starts receiving the stream portion of a presentation 5 minutes into the presentation, then a non-stream portion (e.g., a web page) that should have been presented in the first minute of stream portion will now be presented with a portion of the stream for the 6<sup>th</sup> minute of the stream portion of the presentation. That is, the non-stream portions appear delayed or behind their intended corresponding stream portions of the presentation. For example, Nakayama states:

“However, if the streaming content is reproduced [at a client node] at a later time [instead of on time], the display of the images lags behind correspondingly. For example, if reproduction of the streaming content is started five minutes after the start of a live music broadcast [i.e., the first five minutes of the stream are not received at the client], the music is reproduced from halfway through, but images etc. are displayed on the basis of the reference time at which the reproduction was started. Consequently, images etc. that should be displayed synchronously are all displayed five minutes behind the music.” (cf. Nakayama, col. 12, lines 35-45).

To compensate for such a time delay, a time offset (T1) is transmitted from a server (providing the stream) to the client (local) computer, wherein T1 is the time delay from the actual commencement of the stream for the presentation. Nakayama discloses that T1 is used to delay the presentation of the non-stream data that is to be presented at one or more particular predetermined time(s) relative to the commencement of the stream (e.g., a stream providing a musical presentation).

Nakayama’s technique does not disclose incorporating network transmission delay time into the time T1. Additionally, to incorporate such network transmission time delays into instances of T1, such network transmission time delays would have to be determined. However, Nakayama does not disclose or suggest the determining of such network transmission time delays for incorporating into T1.

Since T1 does not include network transmission delays, if a user (at a client node) enters a networked presentation *after* the presentation has commenced, providing T1 is not sufficient in the present invention for synchronizing stream and non-stream presentation portions on networks, such as the Internet. For example, assuming there is near instantaneous delivery of the non-stream portions of the presentation, in the present invention, if a client enters the presentation 5 minutes late and there is a 15 second network delay in providing the streaming portion of the presentation to the first client, then the total time delay is 5 minutes and 15 seconds. If the client receives 5 minutes as a value for T1, and no other offsets are determined, then the client will receive the non-stream presentations 15 seconds early.

The present patent application is directed at compensating not only for time delays incurred due to, e.g., a client entering a presentation late, but additionally, for **network transmission delays** of streaming data at each of a plurality of network client nodes. Thus, at each individual client node receiving the (stream and non-stream portions of the) presentation, a **total** time delay in the stream portion of the presentation at the client node is determined, and this total delay is used to the synchronize stream and non-stream portions of the presentation. To obtain such a total stream delay, the present application discloses a technique for determining, at a particular master clock node (and in master clock time), a time value (**STe**) that is indicative of when a particular data pattern within the stream content is presented (e.g., displayed or rendered) at the master clock node. That is, **STe** is a time offset from, e.g., the beginning of the origination of stream presentation data, that this data pattern occurs. A “normalized” version of the data pattern is paired with the corresponding value for **STe**, and the resulting pair is transmitted to client nodes. A client node receiving such paired data matches the stream data pattern of the pair with a corresponding “normalized” portion of the actual stream content received at the client node in order to determine a time offset (**T<sub>ofst</sub>**) in the presentation of the stream at the client node. That is, once a match is identified, the difference between:

- (i) a presentation starting time, at the client node (in client node time), of the portion of the stream identified by the pattern matching process, and
- (ii) the portion of the stream currently being presented (i.e., rendered) at the client node (in client node time),

determines the time offset **T<sub>ofst</sub>** at the client node wherein this offset is an approximation to the additional elapsed time of stream presentation that has occurred at the client node.

Accordingly, by adding **STe** and **T<sub>ofst</sub>**, the resulting time value (denoted **STp** in the specification) is the time value (in master clock time) of the stream portion being currently presented (i.e., rendered) at the client node. Accordingly, if the client node receives timing information (denoted **STc** in the specification), in master clock time, as to when to present a non-stream portion of the presentation, then the difference between **STc** and **STp** provides an approximation to the time for offsetting or delaying the presentation of the non-stream portion of the presentation. Once such a time delay has been determined, then this delay can

be used to synchronize the (delayed) stream portions of the presentation with the more instantaneous (non-stream) presentation portions.

To summarize the above descriptions, the present invention is very different from Nakayama. Nakayama's that T1 is not intended to compensate for network delay. Nakayama introduces T1 so that users entering a live broadcast late can still synchronize non-stream portions of the presentation with the stream portions. Since Nakayama's system requires the non-stream portions to have *predetermined fixed time offsets* from the beginning of a live broadcast as described, e.g., in the following passage:

“Conventionally, synchronization files are kept on the streaming server, and when a streaming content is to be reproduced by the streaming player, a corresponding synchronization file is acquired from the streaming server. The synchronization file specifies which image to be opened in which time zone *with respect to a reference time at which reproduction of the streaming content is started*.” (Nakayama, col. 11, lines 56-62)

Such predetermined fixed time offsets allow Nakayama to synchronize stream and non-stream portions of a presentation without compensating for network delays related to network bandwidth and/or data rates. Thus, Nakayama does not need to compensate for such network delays. The drawback to Nakayama's system is that the presentation times for the entire non-stream portion of a presentation apparently must be pre-scripted. Moreover, such pre-scripting is not flexible enough for many networked presentations such as: online real-time auctions, and other live presentations where leaders can vary the non-stream presentation content depending upon, e.g., real time audience feedback, or the preferences of the presentation leader.

Claim 1 has been amended to additionally recite that:

- (a) the “second timing data” (e.g., **STe** above) is for a *corresponding content in the streaming portion*, and
- (b) the “presentation time determining component” at the first network node determines a second time value (e.g., **STp** above) indicative of a time for performing at least part of said streaming portion at said first network node,

wherein “***said second time value is determined from said second timing data by locating in the streaming portion received at the first network node, the corresponding content for the second timing data***”.

It is believed that Nakayama does not disclose or suggest determining presentation synchronization timing information in the manner now recited in Claim 1. Thus, it is believed that these additional limitations distinguish Claim 1 from Nakayama, and accordingly, the Examiner’s 35 USC § 102(e) rejection is now Claim 1 overcome. Hence, Claim 1 is now patentable.

Regarding Claims 2-6, it is believed that the Examiner’s 35 USC § 102(e) rejection is now overcome at least due to the dependence of these claims upon Claim 1. Hence, these claims are now patentable.

Regarding the Examiner’s 35 USC § 102(e) rejection of Claim 11, this claim has been amended to recite similar limitations to those of Claim 1. That is, Claim 6 recites: (a) the second timing data (e.g., **STe** above and in the specification) identifies a timing for each of one or more presentation extents in the streaming portion of the presentation, and (b) the stream time value (e.g., **STp** above and in the specification) is determined from the second timing data ***by performing a step of matching a content*** for the streaming portion with a content for one of the presentation extents. Thus, it is believed that these additional limitations distinguish Claim 11 from Nakayama, and accordingly, the Examiner’s 35 USC § 102(e) rejection is now Claim 11 overcome. Additionally, it is noted that the Examiner has apparently misunderstood the phrases “extent of the streaming portion” and “extent of the non-streaming portion”. These phrases were intended to denote, respectively, a ***portion*** of the stream portion, and a ***portion*** of the non-streaming portion. However, Applicant’s representative felt that the word “portion” would be overused in this context. So the word “extent” was used instead. Hopefully, by using the word “quantity” instead of “extent”, any misunderstanding by the Examiner is rectified.

Regarding Claims 12-13, 15, and 17-19, it is believed that the Examiner’s 35 USC § 102(e) rejection is now overcome at least due to the dependence of these claims upon Claim 1. Hence, these claims are now patentable.

Additionally, regarding Claim 17, the Examiner states that “Nakayama teaches incorporating a parameter (T1) in the synchronization file as an estimate elapsed time from start of delivery, wherein it is clear that T1 is a measurement indicative of an available bandwidth of previous transmissions via the communications network of the first network node and the size of said first subcollection because T1 must realistically reflect the current network conditions and the size of streaming segments (i.e., clips)”.

It is believed that the Examiner is not correctly interpreting Nakayama. Nakayama does not teach or suggest incorporating T1 into a synchronization file. Instead, as the Nakayama passage cited by the Examiner (provided immediately below) states, T1 is merely sent from a streaming server to compensate for synchronization problems between the streaming and non-streaming presentation portions. Additionally, there is no teaching or suggestion in Nakayama of T1 being a measurement of available bandwidth. As described above, T1 is merely a time offset “from the start of a live performance”.

To solve the problem, a method may be employed wherein, at the request of the streaming player, a time T1 elapsed from the start of a live performance is sent from the streaming server to the local computer. On receiving the elapsed time T1, the streaming player passes the relevant URL on to the WWW browser by using, as the reference time, a time traced back by T1 from its own time, whereby a lag of the time of starting reproduction by the streaming player can be compensated for. (Nakayama, col. 12, lines 46-54)

Regarding Claim 21, the amendments provided are similar to those for Claim 1. Accordingly, it is believed that the Examiner’s 35 USC § 102(e) rejection of Claim 21 is overcome for similar reasoning as provided hereinabove for Claim 1. Hence, this Claim 21 is now patentable.

Regarding Claim 22, , it is believed that the Examiner’s 35 USC § 102(e) rejection is now overcome at least due to the dependence of this claim upon Claim 21. Hence, this Claim 22 is now patentable.

**Claim Rejections under 35 USC § 103**



The Examiner has rejected Claims 10, 16, and 23-24 under 35 USC § 103 as being unpatentable over Nakayama. It is believed that these claims are now patentable due to their dependence upon their corresponding patentable base claim.

It is further noted by Applicant's representatives that the limitations of Claim 16 appear to have not been fully addressed by the Examiner in his rejection of this claim. Taken in context with Claim 11, Claim 16 recites synchronizing the presentation *over both* the first and second network nodes so that both of these nodes present corresponding portions of the presentation substantially concurrently. There is no teaching or suggestion of this occurring in Nakayama. Nakayama is only directed to synchronizing stream and non-stream portions of a presentation on a *single* network node. Thus, since Nakayama does not account for different network transmissions delays between client nodes receiving presentation transmissions, Nakayama certainly does not disclose or suggest a way to synchronize two such network client nodes wherein, e.g., one experiences a network transmission delay of 30 seconds more than the other. In particular, it is worth noting that the T1 value in Nakayama is specific to a *single* network node, and even if T1 had the same value for two client nodes, it is only by chance that their respective presentations will be synchronized with one another.

Regarding the Examiner's 103 rejection of Claim 17, the Examiner appears to be asserting that the Official Notice that using a "telephone network to deliver live broadcast such as teleconferencing is well known in the art", and "it would have been obvious to one of ordinary skill in the art at the time the invention was made to include telephone network for Nakayama's live broadcast to because telephone network is a straightforward media for live audio broadcast." Applicant's representative fails to see how this reasoning applies to Claim 17 in that this claim does not recite using a telephone network. Instead, Claim 17 recites various "measurement related to an expected time for said first subcollection to be received by the first network node". Accordingly, it is requested that the Examiner withdraw the 103 rejection of Claim 17 on these grounds, as well as on the grounds that this claim is dependent upon patentable Claim 11.

Regarding the Examiner's 103 rejection of Claim 19, the discussion immediately above regarding Claim 17 appears to equally well apply here. Thus, , it is requested that the

Examiner withdraw the 103 rejection of Claim 19 on these grounds, as well as on the grounds that this claim is dependent upon patentable Claim 11.

### **New Claims**

The Examiner has stated that Claims 7-9, 14 and 20 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

Regarding independent Claim 31, this claim is a combination of Claims 1, 6 and 7 as previously entered, and is believed patentable in that all of the limitations are included that the Examiner stated were to be provided for putting this claim in condition for allowance.

Regarding independent Claim 32, this claim is a combination of Claims 1, 6, 7 and 8 as previously entered, and is believed patentable in that all of the limitations are included that the Examiner stated were to be provided for putting this claim in condition for allowance.

Regarding independent Claim 33, this claim is a combination of Claims 1, 6, 7 and 9 as previously entered, and is believed patentable in that all of the limitations are included that the Examiner stated were to be provided for putting this claim in condition for allowance.

Regarding independent Claim 34, this claim is a combination of Claims 11, 12, 13 and 14 as previously entered, and is believed patentable in that all of the limitations are included that the Examiner stated were to be provided for putting this claim in condition for allowance.

Regarding independent Claim 35, this claim is a combination of Claims 11, 18, and 20 as previously entered, and is believed patentable in that all of the limitations are included that the Examiner stated were to be provided for putting this claim in condition for allowance.

Regarding new dependent Claims 25-26, these claims are believed to be patentable over Nakayama at least due to their dependence upon Claim 1.

Regarding new dependent Claim 27, this claim is believed to recite at least one limitation not disclosed or suggested by Nakayama. In particular, the range on the elapsed time recited in this claim is believed to be novel over all known prior art. Thus, this claim is believed to be patentable over Nakayama, both due to the claim's novel additional limitations, as well as due to its dependence upon Claim 1.

Regarding new dependent Claim 28, this claim is believed to recite at least one limitation not disclosed or suggested by Nakayama. In particular, the comparing of “the data indicative of the corresponding content with the streaming portion” by the “presentation time determining component” is believed to be novel over all known prior art. Thus, this claim is believed to be patentable over Nakayama, both due to the claim’s novel additional limitation(s), as well as due to its dependence upon Claim 1.

Regarding new dependent Claim 29, this claim is believed to recite at least one limitation not disclosed or suggested by Nakayama. In particular, specifying that:

“the second time value is dependent upon a difference between: (a) a time measurement for a part of the stream portion being currently rendered at the first network node, and (b) a time measurement for a starting point for the corresponding content for the second timing data”

is believed to be novel over all known prior art. Thus, this claim is believed to be patentable over Nakayama, both due to the claim’s novel additional limitation(s), as well as due to its dependence upon Claim 1.

Regarding new dependent Claim 30, this claim is believed to recite at least one limitation not disclosed or suggested by Nakayama. In particular, specifying that:

“the second time value is dependent upon an time offset from the second timing data, wherein the time offset is indicative of a difference between: (a) a time measurement for a part of the stream portion being currently rendered at the first network node, and (b) a time measurement for a starting point for the corresponding content for the second timing data”

is believed to be novel over all known prior art. Thus, this claim is believed to be patentable over Nakayama, both due to the claim’s novel additional limitation(s), as well as due to its dependence upon Claim 1.

Since all claims are now believed to be in condition for allowance, Applicant’s representatives request prompt allowance of the present application. Included herewith is payment of \$1,550.00 for 5 new independent claims and a total of 11 new claims. Additionally, a one month extension is requested, and the fee for this one month extension of

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\$120.00 is also provided herewith. However, it is believed that no additional fees are due, but in the event that any fees are due, please charge Deposit Account No. 19-1970.

Respectfully submitted

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